Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An illumination apparatus comprising:

a small-plane light source having diffusion radiation characteristics;

a columnar light leading member, having an incident end surface, an outgoing radiation end surface and a reflection surface, configured to reflect on the reflection surface at least a part of a light ray from the small-plane light source collected from the incident end surface, thereby leading the light to the outgoing radiation end surface; and

an angle position converting member configured to convert an outgoing light angle intensity of the outgoing light from the outgoing radiation end surface of the columnar light leading member into a position intensity in a predetermined irradiation area, whereby the distance between the outgoing radiation surface and the angle portion converting member are substantially equal.

2. (Original) The apparatus according to claim 1, wherein

the angle position converting member includes a pupil forming member configured to form a pupil by using the outgoing radiation end surface of the columnar light leading member as a virtual light source, and

a position of the irradiation area is set in the vicinity of a position of a pupil formed by the pupil forming member.

3. (Original) The apparatus according to claim 2, wherein

the pupil forming member includes an illumination lens configured to condense the light from the outgoing radiation end surface of the columnar light leading member, and

the predetermined irradiation area is set in the vicinity of a focal position of the illumination lens.

4. (Withdrawn) The apparatus according to claim 3, wherein

the apparatus comprises a plurality of the columnar light leading members, and assuming that Y is a length of the outgoing radiation end surface of each columnar light leading member in a given direction of each columnar light leading member, f is a focal distance of the illumination lens, and θ is a maximum allowable light ray angle in the predetermined irradiation area in that direction, an arrangement number n in that direction of the columnar light leading members satisfies the following expression:

$$n \leq (2 \times f \times \mathrm{Tan}\theta) / Y$$

5. (Withdrawn) The apparatus according to claim 4, wherein the small-plane light source and the columnar light leading member form a pair.

6. (Withdrawn) The apparatus according to claim 4, wherein the columnar light leading members are aligned in such a manner that the outgoing radiation end surfaces of the columnar light leading members are placed at different positions with respect to a direction of a normal line of the small-plane light source, and the aligned columnar light leading members are arranged in such a manner that a central columnar light leading member is farthest from the illumination lens and the columnar light leading members positioned at ends are closest to the illumination lens.

7. (Currently Amended) The apparatus according to claim 2, wherein ~~a maximum outgoing radiation NA~~ an outgoing light beam angle of the columnar light leading member is configured to substantially match with an incident side ~~NA~~ numerical aperture when forming a pupil with a predetermined size by the pupil forming member.

8. (Withdrawn) The apparatus according to claim 2, further comprising a light diffusion element arranged on a rear stage of the outgoing radiation end surface of the columnar light leading member.

9. (Withdrawn) The apparatus according to claim 8, wherein, when the pupil forming member has a focal distance f and a size of the irradiation area is L, a diffusion angle θ of the light diffusion element satisfies the following expression:

$$-2 \times \mathrm{Tan}^{-1}(0.5 \times L/f) < \theta < 2 \times \mathrm{Tan}^{-1}(0.5 \times L/f)$$

10. (Withdrawn) The apparatus according to claim 8, wherein the light diffusion element includes a one-dimensional diffuser.

11. (Withdrawn) The apparatus according to claim 2, wherein the pupil forming member is arranged so as to be eccentric with respect to a normal line of the outgoing radiation end surface of the columnar light leading member.

12. (Withdrawn) The apparatus according to claim 11, wherein the pupil forming member includes a prism having free-form surfaces.

13. (Previously presented) The apparatus according to claim 1, wherein the columnar light leading member has a tapered shape such that an area of the outgoing radiation end surface is larger than an area of the incident end surface.

14. (Currently amended) The apparatus according to claim 13, wherein the columnar light leading member has an anisotropy in a ratio of a size of the incident end surface and a size of the outgoing radiation end surface, and

the columnar light leading member is ~~arranged in~~ configured such ~~a manner~~ that a length in one direction of the ~~larger area~~ incident end surface becomes a smaller length in said direction at the outgoing irradiation end surface ~~direction of the a small ratio~~.

15. (Original) The apparatus according to claim 13, wherein the incident end surface and the outgoing radiation end surface of the columnar light leading member have shapes similar to each other.

16. (Withdrawn) The apparatus according to claim 13, wherein the incident end surface and the outgoing radiation end surface of the columnar light leading member have shapes similar to each other.

17. (Withdrawn) The apparatus according to claim 16, wherein the small-plane light source and the columnar light leading member form a pair.

18. (Withdrawn) The apparatus according to claim 16, further comprising:

a lighting portion configured to enable adjustment of a light emission quantity of each of the small-plane light sources;

a moving member configured to relatively move the small-plane light sources and the columnar light leading member; and

a light selection controlling portion configured to control at least one of the moving member and the lighting portion so as to select a light ray used to illuminate the illumination area from light rays from the small-plane light sources.

19. (Original) The apparatus according to claim 1, wherein the columnar light leading member includes a rod constituted by an optical plane made of a transparent material.

20. (Original) The apparatus according to claim 1, wherein the columnar light leading member includes a mirror pipe having a hollow structure whose inner surface is constituted by a reflecting mirror.

21. (Currently amended) The apparatus according to claim 1, wherein the columnar light leading member has an anisotropy in a ratio of a size of the incident end surface and a size of the outgoing radiation end surface, and

the columnar light leading member ~~is arranged in~~ configured such ~~a manner~~ that a length in one direction of the ~~a large illumination~~ irradiation area at the incident and surface becomes ~~a direction of a small ratio~~ a smaller length in said direction at the outgoing irradiation end surface.

22. (Original) The apparatus according to claim 1, wherein the incident end surface and the outgoing radiation end surface of the columnar light leading member have shapes similar to each other.

23. (Withdrawn) The apparatus according to claim 1, further comprising a light flux shape conversion element arranged in the vicinity of the outgoing radiation end surface of the columnar light leading member.

24. (Withdrawn) The apparatus according to claim 23, wherein the light flux shape conversion element includes a diffuser which has a function to convert a circular light flux cross-sectional shape into a rectangular shape.

25. (Currently Amended) An image projection apparatus comprising:

an illumination apparatus comprising:

a small-plane light source having diffusion radiation characteristics;

a columnar light leading member, having an incident end surface, an outgoing radiation end surface and a reflection surface, configured to reflect on the reflection surface at least a part of a light ray from the small-plane light source collected from the incident end surface, thereby leading the light to the outgoing radiation end surface; and

an angle position converting member configured to convert an outgoing light angle intensity of the outgoing light from the outgoing radiation end surface of the columnar light leading member into a position intensity in a predetermined irradiation area;

a light modulation element, having a pixel structure, configured to modulate a light ray for each pixel in accordance with an image signal; and

a projection lens configured to enlarge and project the light modulation element, wherein

the light modulation element is arranged in the illumination area in the illumination apparatus and the distance between the outgoing radiation end surface and the angle position converting member and the distance between the angle

position converting member and the light modulation element are substantially equal.

26. (Original) The apparatus according to claim 25, wherein

the angle position converting member includes a pupil forming member configured to form a pupil by using the outgoing radiation end surface of the columnar light leading member as a virtual light source, and

a position of the irradiation area is set in the vicinity of a position of a pupil formed by the pupil forming member.

27. (Original) The apparatus according to claim 26, wherein

the pupil forming member includes an illumination lens configured to condense the light from the outgoing radiation end surface of the columnar light leading member, and

the predetermined irradiation area is set in the vicinity of a focal position of the illumination lens.

28. (Withdrawn) The apparatus according to claim 27, wherein

the apparatus comprises a plurality of the columnar light leading members, and

assuming that Y is a length of the outgoing radiation end surface of each columnar light leading member in a given direction of each columnar light leading member, f is a focal distance of the illumination lens, and θ is a maximum allowable light ray angle in the predetermined irradiation area in that direction, an arrangement number n in that direction of the columnar light leading members satisfies the following expression:

$$n \leqq (2 \times f \times \mathrm{Tan}\theta) / Y$$

29. (Withdrawn) The apparatus according to claim 28, wherein the small-plane light source and the columnar light leading member form a pair.

30. (Withdrawn) The apparatus according to claim 28, wherein the columnar light leading members are aligned in such a manner that the outgoing radiation end surfaces of the columnar light leading members are placed at different positions with respect to a direction of a normal line of the small-plane light source, and the aligned columnar light leading members are arranged in such a manner that ~~the~~ a central columnar light leading member is farthest from the illumination lens and the columnar light leading members positioned at ends are closest ~~from~~ to the illumination lens.

31. (Currently Amended) The apparatus according to claim 26, wherein ~~a maximum outgoing radiation NA~~ an outgoing light beam angle of the columnar light leading member is configured to substantially match ~~with~~ an incident side ~~NA~~ numerical aperture when forming a pupil with a predetermined size by the pupil forming member.

32. (Withdrawn) The apparatus according to claim 26, further comprising a light diffusion element arranged on a rear stage of the outgoing radiation end surface of the columnar light leading member.

33. (Withdrawn) The apparatus according to claim 32, wherein, when the pupil forming member has a focal distance f and a size of the irradiation area is L, a diffusion angle θ of the light diffusion element satisfies the following expression:

$$-2 \times \mathrm{Tan}^{-1}(0.5 \times L/f) < \theta < 2 \times \mathrm{Tan}^{-1}(0.5 \times L/f)$$

34. (Withdrawn) The apparatus according to claim 32, wherein the light diffusion element includes a one-dimensional diffuser.

35. (Withdrawn) The apparatus according to claim 26, wherein the pupil forming member is arranged so as to be eccentric with respect to a normal line of the outgoing radiation end surface of the columnar light leading member.

36. (Withdrawn) The apparatus according to claim 35, wherein the pupil forming member includes a prism having free-form surfaces.

37. (Previously presented) The apparatus according to claim 25, wherein the columnar light leading member has a tapered shape such that an area of the outgoing radiation end surface is larger than an area of the incident end surface.

38. (Currently amended) The apparatus according to claim 37, wherein the columnar light leading member has an anisotropy in a ratio of a size of the incident end surface and a size of the outgoing radiation end surface, and
that a length in one direction of the ~~large illumination larger~~ irradiation area at said incident end surface becomes a ~~direction of the a small ratio~~ smaller length in said one direction at the outgoing irradiation end surface.

39. (Original) The apparatus according to claim 37, wherein the incident end surface and the outgoing radiation end surface of the columnar light leading member have shapes similar to each other.

40. (Withdrawn) The apparatus according to claim 25, wherein the apparatus comprises a plurality of small-plane light sources each having the diffusion radiation characteristics.

41. (Withdrawn) The apparatus according to claim 40, wherein the small-plane light source and the columnar light leading member form a pair.

42. (Withdrawn) The apparatus according to claim 40, further comprising:

a lighting portion configured to enable adjustment of a light emission quantity of each of the small-plane light sources;

a moving member configured to relatively move the small-plane light sources and the columnar light leading member; and

a light selection controlling portion configured to control at least one of the moving member and the lighting portion so as to select a light ray used to illuminate the illumination area from light rays from the small-plane light sources.

43. (Original) The apparatus according to claim 25, wherein the columnar light leading member includes a rod constituted by an optical plane made of a transparent material.

44. (Original) The apparatus according to claim 25, wherein the columnar light leading member includes a mirror pipe having a hollow structure whose inner surface is constituted by a reflecting mirror.

45. (Currently amended) The apparatus according to claim 25, wherein the columnar light leading member has an anisotropy in a ratio of a size of the incident end surface and a size of the outgoing radiation end surface, and

the columnar light leading member is ~~arranged in~~ configured such ~~a manner~~ that a length in one direction of ~~the a large illumination~~ the irradiation area at the incident end surface becomes ~~a direction of a small ratio~~ smaller in said direction at the outgoing radiation end surface.

46. (Original) The apparatus according to claim 25, wherein the incident end surface and the outgoing radiation end surface of the columnar light leading member have shapes similar to each other.

47. (Withdrawn) The apparatus according to claim 25, further comprising a light flux shape conversion element arranged in the vicinity of the outgoing radiation end surface of the columnar light leading member.

48. (Withdrawn) The apparatus according to claim 47, wherein the light flux shape conversion element includes a diffuser which has a function to convert a circular light flux cross-sectional shape into a rectangular shape.

49. (Presently amended) An illumination apparatus comprising:

a small-plane light source having diffusion radiation characteristics;

columnar light leading means, having an incident end surface, an outgoing radiation end surface and a reflection surface, for reflecting on the reflection surface at least a part of a light ray from the small-plane light source collected from the incident end surface, thereby leading the light to the outgoing radiation end surface; and

angle position converting means for converting an outgoing light angle intensity of the outgoing light from the outgoing radiation end surface of the columnar light leading means into a position intensity in a predetermined irradiation area and the distance between the outgoing radiation end surface and the angle position converting means and the distance between the angle position converting means and the light modulation element are substantially equal.

50. (Currently Amended) An image projection apparatus comprising:

an illumination apparatus comprising:

a small-plane light source having diffusion radiation characteristics;

columnar light leading means, having an incident end surface, an outgoing radiation end surface and a reflection surface, for reflecting on the reflection surface at least a part of a light ray from the small-plane light source collected from the incident end surface, thereby leading the light to the outgoing radiation end surface; and

angle position converting means for converting an outgoing light angle intensity of the outgoing light from the outgoing radiation end surface of the columnar light leading means into a position intensity in a predetermined irradiation area;

a light modulation element, having a pixel structure, for modulating a light ray for each pixel in accordance with an image signal; and

a projection lens for enlarging and projecting the light modulation element, wherein

the light modulation element is arranged in the illumination area in the illumination apparatus and the distance between the outgoing radiation end surface and the angle position converting means and the distance between the angle

position converting means and the light modulation element are substantially equal.

51. (New) The apparatus according the claim 1, wherein said distance is a focal length distance.

52 (New) The apparatus according to claim 1 wherein the incident end surface and outgoing radiation end surface are planar surfaces.

53. (New) The apparatus according the claim 25, wherein said distance is a focal length distance.

54. (New) The apparatus according to claim 25, wherein the incident end surface and outgoing radiation end surface are planar surfaces.